/13 cont./

824 leaves are neatly piled up on top of one another. Then he pulls out the three poles on one side and rolls up the leaves, along with the three liana strips on which they are lying, like a carpet. The ends of the lianas are then pulled together securely and one [482] stuck into the other. A carrying-strap of embira is wrapped around the ball, whereupon the Indian carries the heavy 60-70 kilogram load with his head or chest, in the latter case with the carrying-strap running over the chest and the two upper arms, 30 to 40 minutes or more through the pathless forest to his maloka. • [481] The pace which the Indians strike up in doing this is so swift that I, without a load, always had difficulty following them.

824 285 Having arrived at the dwelling, on the same day or the following day, the leaves are worked up into rectangular mats which are to serve as roof covering, at which the women help. In this technique the efficiency and the inventiveness of the Indian are impressive.

Over a stalk of the paxiúba palm (Iriartea exorrhiza Mart.) 60-100 ubim leaves are laid next to one another with the underside on top, and, to be sure, in such a way that only the end of the leaf lies above the paxiúba stem, while the long stem of the ubim leaf projects beyond it. Each ubim leaf, moreover, consists of three to four V-shaped sides. From the right side there is now begun the fitting of the leaves together into a firm structure. The lower part of the right V-shaped side is now folded under. Then the long ubim stem is bent, wrapped around the paxiúba stem, led upward to the right of the leaf, and then laid over the leaf toward the left. The same procedure is followed with the adjacent leaves. The stem end of the last leaf on the left is fastened with a piece of liana wound around the paxiúba stem, or simply by bending this stem to the right, by way of exception, and shoving it under the other leaves. With this a pano (rectangular mat) is completed, generally with a length of five to eight 342 meters and a width of half a meter. Depending on the length 824 of the windscreen, 80-100 or more of these panos /14/ are now laid on the roof framework over one another tile-fashion at intervals of 30-50 centimeters and fastened with lianas.

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/16 cont./

484 season, or in case their banks are steep, a tree trunk is simply
491 laid across as a footbridge. To cross small rivers, for example, the Rio Demininimbo, a left tributary of the upper Araçá which empties into it one kilometer beyond the Cachoeira dos Indios, the Surára even use a regular bridge. The Rio Demininimbo is 38 meters wide at the place where it is crossed, and on either side
499 there are steep banks eight meters high. The bridge, which was built here during the summer, when the riverbed was relatively shallow, consists of 12 crossed tree-trunks 12-14 meters long, which were rammed into the riverbed. Over the places where they crossed, two thinner trunks were laid next to each other and fastened with liana lashings. At the projecting ends of the supporting posts, lianas form a sort of railing. Since they hang very loosely, however, they can scarcely offer a grip. To secure the bridge, both ends have been additionally anchored to thick trees by means of lianas. Because of this, the construction looks like a hanging bridge at first glance. Since it is one meter higher than the banks, however, small rung-ladders 60 centimeters wide are attached at either side and fastened with liana lashings.

484 491 While I always had to fight with great difficulty to keep my balance in crossing this and other tree-trunk bridges, the Indians, men, women, and children, always strode across effortlessly, • [481] even when they were carrying a great deal of baggage. This may be connected with the fact that they hardly place their feet outward at all, so that one might almost believe them parallel (Ill. 17) (59).

[114] [141]

59. There are similar accounts by Crevaux with regard to the Oiana /Oyana/ (Rukuien /Rucuyen/, Roucouyennes). The investigator sought the reasons for this and believed he found them in the pelvis. The white women, too, he said, more than the men, walk with their feet placed inward, because their pelvis is wider. On account of the foot position, he concludes that the Indians also have a wider pelvis (Crevaux, 1878, p. 255).

/55 cont./

The Surára acquire these articles by way of barter through their occasional contacts with the piaçabeiros (palm-fiber gatherers) on the Rio Araçá, while they are given to the Pakidái as gifts by the personnel of the Indian protection post Ajuricaba on the middle Demini. To my question as to whether their ancestors had once used stone axes (I could not discover any), I was always given affirmative replies. They also have a special name for the ax -- hanhokomã. The blade alone is named synonymously, whereas the shaft is called -- hanhokomãhitohã. Most probably the stone axes were acquired by barter, as is the case, according to Schuster, for the Waikâ (310). Which tribe furnished this

310. Schuster, 1958b, p. 17.

import article could no longer be determined, but this time the Xirîãna seem to be excluded as the intermediaries. Koch-Grünberg writes: "They (the Xirîãna) in former times apparently had no axes at all to cut down the forest. At any rate, they did not know what to do with a stone ax that I showed them" (311a).

311a. Koch-Grünberg, 1923a, p. 307.

12. Equipment for Climbing

To climb up tall palms with a smooth trunk, such as the açaí (Euterpe oleracea Mart.), bacaba (Oenocarpus distichus or Oenocarpus /56/ bacaba Mart.), bucu (Manicaria saccifera Gaertn.), buriti (Mauritia vinifera Mart.), inaja (Maximiliana regia Mart.), paxiuba (Iriartea exorrhiza Mart.), tucuma palm (Astrocaryum sp.), and others, the Surára and Pakidái use the climbing ring -- horohoromã --, which consists of a split liana (cipó-titica) rolled up several times. The ends of the liana are wound around the ring several times and tied with a knot (Fig. 27). /Fig. 27 appears here./

/56 cont./

481 The man, sometimes also the woman, puts this ring around the feet and presses them, with the hollow between the ball of the foot and the heel, in the form of a prehensile foot, firmly against the trunk so that they are fairly sucked against the bark. He assumes a squatting position and then hoists his body upward.

Fig. 27. Climbing ring.

Although he embraces the trunk with his arms and hands, for climbing he uses only his feet, which, because of the ring, always have a firm grip. This grip becomes particularly important after the man has reached the top where he now uses both hands to cut off the fruits.

[171] Such climbing rings are known in many parts of South America and are also used by the caboclos (Brazilian country people). The invention, however, seems to be of Indian origin.

481 222 [137] The pupunha palm (Guilielma speciosa Mart.), however, which plays such an important role in the economic life of the Surára and Pakidái, cannot be climbed in this fashion, because its trunk, the diameter of which is 60-80 centimeters, is covered with long, pointed thorns. In order to be able to harvest its fruits [184] in spite of this, these Indians use a climbing apparatus -- kanaíke -- which is also familiar to the Waiká (311b).

311b. Barker, 1953, p. 446 and Fig. 1.

/56 cont./

481 222 The apparatus consists of two devices completely alike, which are fastened and used in the following manner: Two sticks, 1.60-1.80 meters long, whose diameter is 12-15 centimeters, are tied to the trunk scissors-like and loosely with lianas. The downward-pointing rear part of these crossed sticks is also wound with lianas. Above this first climbing apparatus a second one is attached in the same manner. The Indian who wishes to climb the pupunha palm now stands on the rear end of the lower "scissors" and pushes the one above it upward a short distance. Then he climbs on the rear end of the upper "scissors" and pulls the lower one after him. Next he shifts back to the lower climbing device and pushes the top one up a bit farther. Thus, by constantly changing his position and pushing one apparatus up and drawing the other one after him, he reaches the crown in 4-5 minutes (Ill. 39). He picks the ripe fruits and lets them down one by one on a liana, where his fellow tribesmen receive them. The descent is the reverse of the ascent.

481 222 194 I venture to doubt that this magnificent technical invention was developed by the Waikâ, Surára, or Pakidái, above all because the rest of their material culture is extraordinarily poor. There is nothing to indicate an import, however. Influences of civilization are likewise out of the question, for the caboclo population (planters, rubber /57/ and palm-fiber gatherers) in the Demini-Aracá area is unfamiliar with the technique described; they knock down the pupunha fruits with long poles.

303 13. Preparation of Urucú

The red coloring urucú -- narâ -- with which the Indians paint their bodies as well as their implements, is made by the women from the red seeds of the Bixa orellana which are found in thorny capsules. The seeds are cooked in a vessel until only a red sediment remains on the bottom, which is shaped into lumps and allowed to dry. With this the Indians are then able to paint themselves at any time; the color must first be moistened, however, with a little water or saliva.

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Pahidai
Waica

/78/

226
184 Among the Waikâ, too, fishing ranks last in the acquisition of food and is likewise practiced with bow and arrow there, as well as with the fishhook in more recent times. It is worth noting, however, that in addition they are familiar with a method of fishing by poisoning the water (356a) (356b) 357).

356a. Barker, 1953, pp. 464/65.

356b. Zerries, 1956b, p. 152.

357. Zerries, 1958c, p. 179.

222
[462] d) Gathering

Not only women, but also men take part in the gathering activity. The latter have the duty in particular to bring in the fruits of the many palm species (358), of which the following are

358. The general name for palms is -- petabaîmo.

the most important: acaî (Euterpe oleracea Mart.) -- uaîma --, bacaba (Oenocarpus distichus Mart. or Oenocarpus bacaba Mart.) -- hokomakê --, bucu (Manicaria saccifera Gaertn.) -- yauetoâk --, buriti (Mauritia vinifera Mart.) -- etewexî --, curua (Attalea spectabilis Mart.) -- yauatoâ --, tucuma (Astrocaryum sp.) -- pahî -- (359), and pupunha (Guilielma speciosa Mart.) --

•[481] 359. To climb the palms named they used the climbing ring (see pp. 119/120).

komunamâ -- (360). The fruits of smaller palms that are easy to

[481] 360. Since the trunk of this palm is covered with sharp thorns -- miîmicibâ --, it can be climbed only with the help of two specially constructed implements (see pp. 121/122).

Surára Pakidái

/81/

192 245 Designation of the Surára and Pakidái:

pakaxarimã

kurará pauximf

nakaximf

rokojí

rokomã

paraní

rodremvökifiõ

xiahíma

Designation of the regional caboclo population:

pacovão

inají

São Tomé roxa

São Tomé branca

banana maçã (?)

cainé

banana bajé

Banana governo (375)

[24] 375. Unfortunately, I could not carry out a botanical classification of these varieties.

245 [412] [824] With the help of a digging stick made from the wood of the pupunha palm and 1.60-1.80 meters long, which has a flattened point at the lower end (Ill. 38), or a broken bow-staff, cuttings of banana trees are planted in the clearing, and after only a few months they are full-grown and bear fruit. The work of planting [462] as well as the care of the plants falls to the men, while the women help only with the harvest (376).

[184] 376. Among the Waiká, the plants are cared for by men and women (Zerries, 1956b, p. 153).

Besides the banana, the pupunha palm (Guilielma speciosa Mart.) -- komunamí -- is cultivated to a considerable extent. Cuttings are used for planting, but occasionally seeds as well. These palms, which always stand between the bananas, give the clearings of the Surára and Pakidái a characteristic stamp [481] (Ill. 37). The trunk, 18-20 meters tall, which is covered with pointed thorns -- mifmicibí -- and can therefore be climbed only

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Pakidái

/81 cont./

245
[481]

with a specially constructed apparatus (see p. 129), bears very narrow, pinnate leaves that are curly at the tips and are always gently swaying in the wind. They stand around the community house like sentinels and seem to be perpetually nodding benevolently and reassuringly to the inhabitants of the large, open maloka (Ill. 6). Their fruits -- maraxá -- (377),

377. The name among the Waiká is very similar -- "lasha" (Zerries, 1956b, p. 149).

50-80 of which form a cluster, are noteworthy. They can be harvested only once a year, between September-April, but each palm has at least three, and sometimes four clusters, that is to say, approximately 200-300 fruits. At first they look yellow, but after ripening they take on a bright red color. In contrast to other palm fruits, they are characterized by especially abundant meat.

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As to the question of whether or not the pupunha fruit has seeds, there are various opinions. Zerries did not find any seedless ones (378). On the other hand, I saw fruits with

378. Zerries, 1956b, p. 149.

seeds and without. This observation is confirmed by statements by Sauer, who writes: "In many cases it has lost the capacity to produce fertile seeds..." /cited in English/ (379).

379. Sauer, 1950 p. 525.

And even Alexander von Humboldt (380) and Vinci (381)

380. Alexander von Humboldt, 1860, III, p. 281.

381. Vinci, 1956 pp. 370-375.

Surára
Pakidái

/89 cont./

12. Hygiene

515 Regular bathing, washing of the face and hands, and cleaning the finger and toe nails are unknown; this is also true for babies, who are often covered with a veritable crust of dirt. Nor do they /90/ brush their teeth or ever rinse their mouths. Yet I [147] [145] was never aware of an unpleasant body odor or bad breath on the Indians, and until an advanced age their teeth are dazzlingly white and sound. While hunting or gathering, however, if men and women are obliged to cross a brook or small river, they gladly utilize the opportunity to take a refreshing bath, and the same is true when female members of the tribe fetch water.

A bath is greatly appreciated by children and young people, but [481] not at all by older persons. Most men can swim quite well and teach their sons also; women and girls who swim are exceptions.

177 515 As a result of occasional contacts with the palm-fiber gatherers on the Rio Aracá or with the personnel of the Indian protection post on the Demini, the Surára and Pakidái have for some time been acquainted with soap, and various Indians, predominantly children and young men and women, like to lather themselves when they take a bath. Several women had even taken to washing their hammocks now and then with soap. Thus, the cakes of soap [123] that I carried with me were very much in demand, as were perfume and hair tonic.

264 Eating is done only with the hands (see p. 184). If the meat was very greasy and the hands are smeared all over with dirt and grease, they are rubbed off somewhat against a post and then run through the hair a few times. The eating bowls and pots, with the remains of the meal, are then put down for the dogs, who at the same time take over the work of cleaning; eating utensils are seldom washed. When they are needed for the next meal, the woman passes them over her hair a few times. If there are still a few crusts of dirt present, she spits on them and rubs them with her hand.

2:Becher--277 E-5 (1955-1956) 1960 SQ18 Yanoama SQ18

Surára
Pakidái

/12/

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622
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412

Ill. 37. Surára forest clearing in a circle around the large, open maloka

Ill. 38. The Surára chief Hewemao doing field work. He is holding a digging stick in his left hand.

137
481

114
142
302
291
516
624

Ill. 39. Climbing a pupunha palm with the help of climbing apparatus

Ill. 40. Poréhiwõ, war chief of the Pakidái (right), and my guide, Mateus Dias, a pure-blooded Tukano Indian from the upper Rio Negro. A Pakidái youth is squatting in the background.

6: Vinci T-5 (1950) 1959 SQ18 Yanoama SQ18
Sanema

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13. *For the Shyriana, lianas provide a continuation of the forest track.*

[P.96-C]

/445 cont./

241 Many of the Guaika /Waica/ are very careful with regard to weeding their plantings, especially when the plants are small. Later, when the plants have reached a good development, they weed the plantings less frequently. Then, perhaps three or more years later, when the land has begun to yield less produce, they cease weeding it altogether and harvest only what has managed to grow by hard efforts.

222 Generally, there is found in these "conucos," at least in the abandoned ones, the "pijiguao" palm. This is because the "pijiguao" begins to produce about the time the earth has become too poor for other produce.

222 The fruit of the "pijiguao" palm is harvested by loosening
481 the bunches by means of a long pole with a hook. When the palm has grown too much to perform /446/ this operation from the ground, the Guaika climb it, using two devices, each one made out of a pair of sticks tied together in the form of an X, which, although being adjusted to the thorny trunk of the palm, can be slid up or down while the climber keeps his foot on one of these platforms (see Fig. 1). Once the bunch has been reached and loosened, it is carefully lowered to the ground, tied to a liana to prevent the fruit from being damaged by a fall from such a height. /[illegible] Fig. 1 appears here./

241 The men are the ones who clear the "conucos." The
[462] women go to the "conucos" more than anything in order to transport the harvests to their homes.

241 Every family has its own "conuco." Frequently the boys
857 begin to prepare their own "conucos" at an early age (at about
[423] 11 years old). Even boys seven years old succeed in having a few of their own plants in the "conuco" of their father or of their older brother. Other boys only help their father in the plantings and have little or nothing until they reach 18 years of age or more.

/446 cont./

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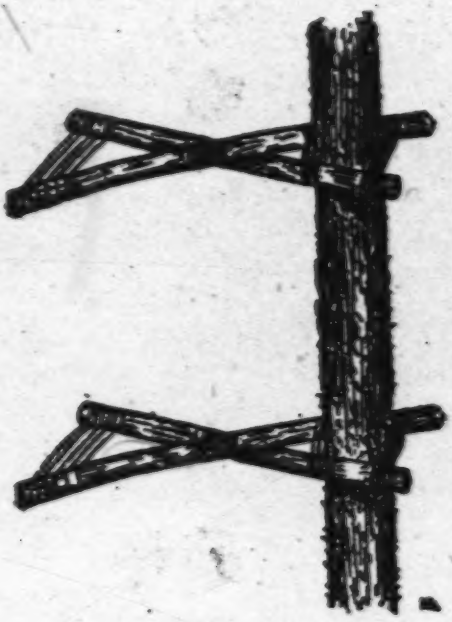

/Fig. 1 ; See p. 16 for explanation./

11: Chagnon E-5 (1964-1968) 1968 SQ18 Yanoama SQ18

Fig. 2-6. Rerebawë climbing a rasha *tree to collect the palm fruit. The tree has many sharp spines on it, and the Yąnomamö use an ingenious device made of crossed poles to climb the tree. The climber stands on one pair of poles and lifts the other pair up the tree. Then he climbs to the upper pair and lifts the bottom pair up. In this way the tree is slowly ascended, and no thorns get stuck in the body.*

The grubs

are wrapped in small packages of leaves and placed in the hot coals to roast. They render down in the heat, yielding some liquid fat, which is licked off the leaves, and a soft, white body. I could never bring myself around to eat one, but an experienced missionary told me they tasted very much like bacon. But then I suppose that anything cooked in a smoky fire tastes like bacon.

The discarded seeds of palm fruits also get infected with much smaller grubs. The Yąnomamö break the hard seeds open with a rock, extract the grub, and prepare it in the above manner.

Some species of caterpillar are also eaten. They are not cleaned before cooking; the squirming insects are simply wrapped in leaves and thrown into the coals to roast.